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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>*21 August 2008*</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *4,5,8 and 9* is/are pending in the application.

    4a) Of the above claim(s) *1-3,6 and 7* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *4,5,8 and 9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☐ All   b)☐ Some * c)☐ None of:

      1.☐ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

1.   The text of those sections of Title 35, U.S. Code not included in this action can

be found in a prior Office action.

Response to Arguments

2.   Applicant's arguments with respect to **claims 4 and 5** have been considered but

are moot in view of the new ground(s) of rejection.

Claim Objections

3.   **Claim 9** is objected to because of the following informalities: "In claim 8" in ln 1,

should be "the method of claim 8". Appropriate correction is required.

Claim Rejections - 35 USC § 112

4.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

5.   **Claim 8** is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with

the enablement requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to enable one skilled in the art to which it

pertains, or with which it is most nearly connected, to make and/or use the invention. In

particular, claim 8 limitation (d) recites "by calculating the weighted value of each

structure a most appropriate optimum case is determined and output" It is not clear

which structure applicant is referring to since the limitation includes both partial

structures and an entire structure. **Claim 8** is rejected under 35 U.S.C. 112, first

paragraph, as failing to comply with the written description requirement. The claim(s)

contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In particular, claim 8 includes the limitation "comparing the said partial structures with the subcategorization information of a head stored in the subcategorization database, grammatical roles are assigned to the said matching local structures" pg 6, ln 8-26 of the specifications discloses a subcategorization database storing details of categories belonging to heads and establishing partial structures by using the subcategorization database, and not comparing the said partial structures with the subcategorization information of a head stored in the subcategorization database. Also, pg 17, ln 5-15 of the specifications disclose matching a morpheme defined as an ending in the defined morphemes with the relations between respective morphemes being specified by symbols, and not "grammatical roles are assigned to the said matching local structures"

6.   **Claim 4** is rejected is under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. in particular, claim 4 includes the limitation " displaying a result including retrieved words, the sentences **with matching** including tags for retrieval **of an input question or query phrase**". Pg 8 ln 20-22 of the specification discloses displaying a result including retrieved words, the sentences including tags for retrieval but not a query phrase.

Claim Rejections - 35 USC § 102

Claims 4, 5, 8 and 9 are rejected under 35 U.S.C 102(b) as being anticipated by

Braden-Harder et al US 5,933,822 ("Braden")

As to **claim 4,** Braden discloses a natural language retrieval method for retrieving

documents (sentences) by inputting a natural language question using a syntax analysis

method based on a mobile configuration concept, the method comprising:

analyzing a document in which sentence analysis information of a document that

is an object of retrieval is stored in a sentence information database by using a syntax

analysis method based on a mobile configuration concept **comprising a morpheme**

program, a semantic feature dictionary program, a multiple morpheme list

program, a grammatical rule database, and a subcategorization database (natural

language processing, morphological, logical forms, semantic relationship, col. 5, ln 8-26;

records, grammatical rules, parse trees, col. 11, ln 62 - col. 12, ln 29; category, NP,

parse tree, col. 12, ln 30-46)

analyzing question syntax in which in the document information database, if a

question in a natural language is input (analyzed, query, retrieved, natural language,

Abstract), the syntax of the question is first analyzed according to the syntax analysis

method based on the mobile configuration concept the syntax analysis result is

dissected **into grammatical relations** in according to syntax analysis information

(morphological, syntactic…., query, analyzed, same manner, col. 5, ln 27-55; syntactic

parse tree, rules, col. 11, ln 62 - col. 12, ln 29; Table 1), the interrogative sentence type

of a question is captured, and a dissected detailed **database query form** question is

determined ("where is coffee grown?", type of query, sentence, corpus, 'location"

attribute…., col. 25, ln 60-col. 26, ln 7);

retrieving a document in which the role of the tag of the detailed question

determined in a **syntax analysis result is** converted into a tag for retrieval according to

the desired interrogative sentence type, a word having the converted tag for retrieval is

retrieved in the sentence **information database** analysis dictionary (logical forms,

word-relation-word manner, Abstract; search query, retrieved documents, col. 5, ln 8-26;

"where is coffee grown?", "coffee is…, col. 25, ln 49-67; triples, fig 5A) and a ranking is

calculated (ranked, Abstract); and

displaying a result including retrieved words, the sentences **with matching**

including tags for retrieval **of an input question or query phrase,** and the contents of a

document including the sentences (logical forms displayed, col. 5, ln 8-26; comparing,

matching logical forms, screen of display, col. 11, ln 22-34).

As to **claim 5,** Braden discloses the method of claim 4, wherein retrieving a

document comprises:

performing a first retrieval mode (step) in which by using only syntactically

analyzed information, and based on only the result of syntax analysis of a question, a

document database already analyzed is searched and matching contents are extracted

and provided (search, database, syntactic, analyzed in the same manner…, yield, col.

5, ln 27-55); and

performing a second retrieval mode (step) in which when an expression is

included in a question, according to the selection of a retriever, retrieval conditions for

the second retrieval mode are generated, by a retrieval rule information and a noun

system database, and based on the retrieval conditions, contents semantically

dependent on a predetermined component are retrieved and provided (noun appositive,

"where is coffee grown…, coffee is…, where something is, "location", corpus, col. 25, ln

49 - col. 26, ln 7; semantically relevant.., col. 26, ln 13-23, location attribute as retrieval

rule information used in retrieving documents with matching sentences),

wherein the first retrieval step is formed of a component matching retrieval

method by which data matching direct constituents of a given question are extracted

and provided ("where is coffee grown?", "coffee is…, col. 25, ln 49-67; Abstract), and a

meaning matching retrieval method by which constituents forming a question are

included and data including predicates that are core words and semantically similar

predicates are extracted and provided ("where is coffee grown?", "coffee is…, col. 25, ln

49-67, coffee being predicate in the query, as core noun word used in retrieving

sentence with same meaning as coffee in "coffee is...."), and the second retrieval step

uses the retrieval rule information and a database based on a semantic hierarchical

structure of nouns (col. 13, ln 11-44, table 2 and 3; parse trees, col. 12, ln 47-65, table

1; location attribute as retrieval rule information used in retrieving documents with

matching sentences).

As to **claim 8,** Braden discloses the method in claim 4, wherein the syntax

analysis method for analyzing syntax and describing the grammatical function of the

syntax of the input question, after establishing the morpheme program for analyzing

morphemes of an input sentence, multiple morpheme list program for reducing

sequences of tagged morphemes into a multiple morpheme form with a single tag,

semantic feature dictionary program for assigning appropriate semantic features to the

morphemes obtained by the said morpheme program, a grammar rule database for

storing grammar rules combining tagged morphemes to phrases to form local

structures, and a subcategorization database for storing the details of subcategories

and adjunct types belonging to heads, the method comprising:

(a) analyzing morphemes wherein if a sentence desired to be analyzed is input

query, analyzed, Abstract), the contents of words are analyzed into morpheme

sequences according to the morpheme program (morphological, logical form, analyzed

in the same...., col. 5, ln 27-39; table 1, col. 12), and after selecting an analysis case of

a morpheme appropriate to the input data among morpheme analysis data,

preprocessing is performed (fig 5A and 5B);

(b) performing preprocessing multiple morpheme list program in which whether

or not there is any sequence of tagged morphemes included in a multiple morpheme (fig

5A, multiple morpheme includes labeled morphemes), and if any, the said sequence of

tagged morphemes is transformed into a multiple morpheme form with a single tag and

thus the syntactic complexity of an input sentence is reduced (fig 5a, input string

reduced to logical triples);

(c) determining and including the meaning of the morpheme in each morpheme

by the semantic feature program (word-relation-word, semantic relationship, Abstract);

and

(d) analyzing grammatical relations wherein with the analyzed morphemes,

partial structures of constituents of an input sentence are first established according to

grammatical rules stored in the grammar rule database (analyzed, Abstract; fig 5A;

record, lexicon, grammatical rules, col. 11, ln 62 -col. 12, ln 29) and then by comparing

the said partial structures with the subcategorization information of a head stored in the

subcategorization database, grammatical roles are assigned to the said matching local

structures, and the entire structure of an input sentence is established (fig 5A, and 5B,

compared, match, Abstract; col. 11, ln 62 -col. 12, ln 29; parse tree, "the octopus has

three hearts", table 1, col. 12) and by calculating the weighted value of each structure a

most appropriate optimum case is determined and output (weight, rank, presented to a

user, Abstract, ranking as a way of providing the most appropriate optimum matched

cases).

As to **claim 9,** Braden discloses in claim 8, the said subcategorization

information stored in the said subcategorization database comprises a list of

subcategories including subject and adjunct categories all of which are specified with

grammatical roles and semantic features (logical form encodes, argument and adjunct,

semantic relationship, Abstract; Dsub, Dobj, fig 5A; noun, verb, adj, col. 12, table 1)

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to OLUJIMI A. ADESANYA whose telephone number is

571-270-3307. The examiner can normally be reached on Monday-Friday 7.30a.m -

5.00p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, RICHEMOND DORVIL can be reached on 571-272-7602. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

Information regarding the status of an application may be obtained from the

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

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USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/OLUJIMI A ADESANYA/
Examiner, Art Unit 2626
/Richemond Dorvil/
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